

Installation Guide

hp StorageWorks Business Copy EVA/MA/EMA Host Agent v2.2 for HP-UX

Product Version: 2.2

Fourth Edition (October 2003)

Part Number: T3032-96104

HP StorageWorks "Business Copy (BC) for enterprise virtual array (EVA), modular array (MA), and enterprise modular array (EMA)" is the new name for the "Enterprise Volume Manager (EVM)" software.

This guide describes procedures for installing, reinstalling, updating, and removing the BC host agent software.



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Business Copy EVA/MA/EMA Host Agent v2.2 for HP-UX Installation Guide
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about this guide

This installation guide supersedes previous Business Copy (BC) host agent installation guides and provides information to help you:

- Understand Business Copy (BC) host agent installation prerequisites
- Install BC Host Agent v2.2 for HP-UX software on a host computer in a BC v2.2 network
- Update BC host agent software on a host computer
- Reinstall BC host agent software on a host computer
- Remove BC host agent software from a host computer
- Contact technical support for additional assistance

“About this Guide” topics include:

- [Overview](#), page 6
- [Conventions](#), page 8
- [Getting Help](#), page 10

Overview

This section covers the following topics:

- [Intended Audience](#)
- [Prerequisites](#)
- [Related Documentation](#)

Intended Audience

This guide is intended for customers and HP authorized service providers. In addition to being familiar with BC (previously called Enterprise Volume Manager [EVM]), readers should also be knowledgeable of BC-supported:

- SAN fabric configurations
- Host operating system environments
- Storage systems
- Multibus configurations

Prerequisites

Before installing BC Host Agent v2.2 software, make sure you consider the following items:

- Has the BC Server v2.2 software been installed on a storage management appliance (SMA)? Supported SMAs include:
 - Compaq SANworks Management Appliance
 - SANworks by Compaq Management Appliance II
 - HP OpenView Storage Management Appliance III

If not, install the BC Server v2.2 software on the SMA before continuing. Refer to the *HP StorageWorks Business Copy EVA/MA/EMA Server v2.2 Installation Guide* (T3032–96102).

- Does the host computer on which the BC Host Agent v2.2 software is being installed have visibility to an SMA in the same SAN environment? If not, refer to the *HP StorageWorks Business Copy EVA/MA/EMA v2.2 Network Administration Guide*¹ (T3032–96101).

1. Hereafter referred to as BC Network Administration Guide.

Related Documentation

In addition to this guide, HP provides corresponding information:

- *HP StorageWorks Business Copy EVA/MA/EMA v2.2 Read Me First*² (T3032–99101)
- *HP StorageWorks Business Copy EVA/MA/EMA v2.2 Update Read Me First*³ (AA–RQ70G–TE)
- *HP StorageWorks Business Copy EVA/MA/EMA Server v2.2 Release Notes*⁴ (T3032–98101)
- BC Network Administration Guide
- *HP StorageWorks Business Copy EVA/MA/EMA Host Agent v2.2 for HP-UX Release Notes*⁵ (T3032–98103)
- BC online Help & User Guide, as part of the BC server software, and on the BC documentation CD-ROM

2. Hereafter referred to as BC Read Me First.
3. Hereafter referred to as Update BC Read Me First.
4. Hereafter referred to as BC Server v2.2 Release Notes.
5. Hereafter referred to as BC Host Agent Release Notes.

Conventions

Conventions consist of the following:

- [Document Conventions](#)
- [Text Symbols](#)

Document Conventions

The document conventions included in [Table 1](#) apply in most cases.

Table 1: Document Conventions

Element	Convention
Cross-reference links	Blue text: Figure 1
Key and field names, menu items, buttons, and dialog box titles	Bold
File names, application names, and text emphasis	<i>Italics</i>
User input, command and directory names, and system responses (output and messages)	Monospace font COMMAND NAMES are uppercase monospace font unless they are case sensitive
Variables	<monospace, italic font>
Website addresses	Blue, underlined sans serif font text: http://www.hp.com

Text Symbols

The following symbols may be found in the text of this guide. They have the following meanings:



WARNING: Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or death.



Caution: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or data.

Note: Text set off in this manner presents commentary, sidelights, or interesting points of information.

Getting Help

If you still have a question after reading this guide, contact an HP authorized service provider or access our website: <http://www.hp.com>.

HP Technical Support

Telephone numbers for worldwide technical support are listed on the following HP website: <http://www.hp.com/support/>. From this website, select the country of origin.

Note: For continuous quality improvement, calls may be recorded or monitored.

Be sure to have the following information available before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Applicable error messages
- Operating system type and revision level
- Detailed, specific questions

HP Storage Website

The HP website has the latest information on this product, as well as the latest drivers. Access storage at: <http://www.hp.com/country/us/eng/prodserv/storage.html>. From this website, select the appropriate product or solution.

To submit comments regarding BC, send an email to BCFeedback@hp.com.

HP Authorized Reseller

For the name of your nearest HP authorized reseller:

- In the United States, call 1-800-345-1518
- In Canada, call 1-800-263-5868
- Elsewhere, see the HP website for locations and telephone numbers: <http://www.hp.com>.

Installation Preparation



Installing or updating BC host agent software involves the following major steps:

1. Reading the BC Network Administration Guide for configuration requirements and planning
2. [Downloading the Update](#), page 12 (update only step)
3. [Coordinating Business Copy Installation Activities](#), page 13
4. [Verifying the Business Copy Server Configuration](#), page 14
5. [Verifying the Host Configuration](#), page 15
6. [Preparing for Installation](#), page 18
7. [Starting the Installation](#), page 20
8. [Completing the Installation](#), page 28

Downloading the Update

The BC host agent update is only available by download from the Business Copy product page website.

1. Visit <http://h18000.www1.hp.com/products/storage/software/bizcopyeva/index.html>
2. Click **software & drivers**.
3. Under **Available Software & Drivers**, click the **business copy EVA & business copy upgrade UI EVA/MA/EMA v2.2** link to access the update download page.
4. Refer to the BC Read Me First for pre-installation considerations and a procedure for making a CD backup of the download file.

When ready, go to the next section.

Coordinating Business Copy Installation Activities

BC server and BC host agent software are interdependent. Refer to the BC Read Me First for each product to verify the version requirements and compatibility.



Caution: If not properly planned and coordinated, updating a BC host agent to BC v2.2 can result in reduced operational capabilities and failure of BC jobs.

Ensure that:

- The BC host agent installation or update activities have been coordinated with users of the host
- The BC host agent version being installed or updated is compatible with the BC server for this BC network
- No BC jobs involving the host are running or “undoing,” or are scheduled to run or “undo” during the update installation period
- The BC server that supports the BC host agent installation is installed or updated before installing or updating the BC host agent
- The BC server is running while installing or updating the BC host agent

Note: HP strongly recommends that the BC server be running, to allow the BC host agent installation software to establish communication with the BC server. If necessary, the BC host agent can be installed without the BC server running.

When ready, go to the next section.

Verifying the Business Copy Server Configuration

Before installing or updating the BC host agent, verify that the BC server:

- Has a version level that supports this host agent
- Remains running during the host agent update

Also, record the following SMA information for the BC server installation:

- Fully qualified network name (such as MyAppliance.dept.corp)
- Unqualified network name (such as MyAppliance)
- IP address (such as 11.22.333.444)

Make sure to have this information available during the BC host agent installation.

To view the network name and IP address of an SMA, browse to the SMA and log in. Both items are shown at the top of the home page.

When ready, go to the next section.

Verifying the Host Configuration

Before installing or updating the BC host agent, verify that the host has BC-supported configurations and versions of the following:

- Host operating system version
- StorageWorks Solution Software kit
- FC HBAs and drivers
- StorageWorks Secure Path
- Multibus failover configuration with the storage controllers

This BC host agent is cluster-aware and supports only HP Serviceguard for HP-UX 11.11 and 11.23 clusters.

Refer to the BC Network Administration Guide and BC Host Agent Release Notes for specific requirements.

When ready, go to “[Installing the Business Copy Host Agent](#)” on page 17 to start the installation or update.

Installing the Business Copy Host Agent

2

This module assumes that “[Installation Preparation](#)” on page 11 has been read and all appropriate steps have been successfully completed. Complete the following procedures in sequence to install a BC host agent:

1. [Preparing for Installation](#), page 18
2. [Starting the Installation](#), page 20
3. [Completing the Installation](#), page 28

Preparing for Installation

Installation preparation involves one of two methods: CD-ROM or Web download. Use one of these methods to prepare for installing the BC host agent software.

- [CD-ROM Method](#)
- [Web Download Method](#)

Note: To install BC successfully, the host computer must have at least 155,634,226 bytes of free disk space.

Note: BC v2.2 requires a minimum installation of BC Host Agent v2.1 or v2.1a before the BC Host Agent v2.2 update can be initiated.

CD-ROM Method

1. Locate the BC host agent CD-ROM.
2. On the host computer, open a terminal window and log on as a super-user.
3. Insert the CD-ROM into the CD-ROM drive.
4. Navigate to the *HP-UX* folder on the CD-ROM.

The folder contains an executable file named *bc_22_hpux_ha_install.bin*.

When ready, go to “[Starting the Installation](#)” on page 20.

Web Download Method

1. On the host computer, open a terminal window and log on as a super-user.
2. Either locate the CD-ROM made from the BC update download (see [“Downloading the Update”](#) on page 12) or locate the *HP-UX* download file (*bc_22_hpux_ha_install.bin*) on the host computer or LAN.

If necessary, refer to the BC Read Me First.

3. Copy the *bc_22_hpux_ha_install.bin* file to the host computer, if necessary.
4. On the host computer, navigate to the folder containing the *bc_22_hpux_ha_install.bin* file.

When ready, go to the next section.

Starting the Installation

Complete the following procedure to install a BC host agent on a host.

Note: During the installation procedure, press **Enter** to choose the default response. To return to a previous step, enter `back`. To exit the installation script at any time, enter `quit`.

Also press **Enter** as necessary to scroll through lengthy text screens.

1. Enter `# sh ./bc_22_hpux_ha_install.bin` to start the installation script.

General information displays as the installation script unpacks, followed by BC-specific information (see [Figure 1](#)).

Note: Unpacking of the Java™ Runtime Environment (JRE) segment can take three to five minutes.

```
# sh ./bc_22_hpux_ha_install.bin
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

Preparing CONSOLE Mode Installation...

=====
Business Copy EVA/MA/EMA Host Agent v2.2 (created with InstallAnywhere by
Zero G)
=====

=====
Introduction
-----

.
.
.

PRESS <ENTER> TO CONTINUE:
```

Figure 1: Initiating the installation script

2. Press **Enter** to continue.
3. Review the BC license agreement (see [Figure 2](#)).

```
=====
BC License Agreement
-----

Installation and use of Business Copy requires acceptance of the following
License Agreement:

Business Copy EVA & MA/EMA License Agreement
Attention Notice
IMPORTANT: READ CAREFULLY BEFORE USING THIS PRODUCT.
.
.
.

DO YOU ACCEPT THE TERMS OF THIS LICENSE AGREEMENT? (Y/N):
```

Figure 2: License agreement

4. Enter `y` or `yes` to agree to these terms and continue the installation; enter `n` or `no` to exit the installation script.

Entering `yes` provides a list of BC operational prerequisites (see [Figure 3](#)).

Note: HP recommends exiting the installation if BC prerequisites have not been met, or if doubts exist as to whether the requirements are met. Take the necessary action to make sure that these prerequisites are met and then restart the installation.

```
=====
BC Prerequisites
-----

Welcome to the HP StorageWorks Business Copy EVA/MA/EMA Host Agent
installation script. This script will install BC on this computer.

Do not proceed until you have:
.
.
.

PRESS <ENTER> TO CONTINUE:
```

Figure 3: BC prerequisites



Caution: Failure to properly address BC preinstallation requirements and compatibility considerations can lead to reduced operational capability and failure of BC jobs.

5. Carefully review the BC prerequisites and make sure each item has been addressed before continuing the BC host agent installation (see [Figure 3](#) on page 21).

Note: If any of the operational considerations have not been addressed, exit the installation, address the items, and then restart the installation.

6. Press **Enter** to continue; enter `quit` to exit the installation script.

An option to select the BC installation folder displays (see [Figure 4](#)).

- For initial installations, `/opt` displays as the BC default installation folder.
- For reinstallations, the folder used during the previous installation displays as the default installation folder.



Caution: HP *does not* recommend changing the installation folder when reinstalling the BC host agent. Changing the folder during a BC host agent reinstallation might cause BC to function improperly.

```
=====
Choose the Installation Folder
=====

CPQevm will be appended to the base directory selected.
Where would you like to install Business Copy?

  Default Install Folder: </opt/>

ENTER AN ABSOLUTE PATH, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
:

INSTALL FOLDER IS: <BC_default_or_previous_folder>
IS THIS CORRECT? (Y/N): y
```

Figure 4: Installation folder option

Note: If updating to BC Host Agent v2.2 software, the update will automatically be placed in the folder used during the initial BC installation.

7. Press **Enter** to continue using the BC default installation folder, or enter an absolute path to the desired installation folder; or enter `quit` to exit the installation script.
8. Enter `yes` if the installation folder is correct; enter `no` to reenter the installation folder.

After the installation folder is determined, the BC host agent software installation begins. Initially, a progress bar is displayed, followed by an SMA name question (see [Figure 5](#)).

Note: For reinstallations, the previous SMA name displays as the default.

```
=====
Storage Management Appliance Name
-----

Enter the Storage Management Appliance fully qualified name, qualified
name, or IP address:
Storage Management Appliance Name (DEFAULT: <previous_SMA_name/IP>):
```

Figure 5: SMA name option

9. Enter the fully qualified name, qualified name, or IP address of the SMA that supports this BC host agent.

Note: The SMA name or IP address is required to establish network communication between BC host agents and the BC server. A default SMA name is derived from the SMA serial number:

- On a first generation SMA model, use the letters *swma* and include the last 6 characters of the SMA serial number.
If the SMA software was restored using the Quick Restore CD-ROM v2.0, the default SMA name begins with *sma* and includes all 12 characters of the SMA serial number.
- On an SMA II model, use the letters *sma* and include all 12 characters of the SMA serial number.
- On an SMA III model, use the letters *sma* and include all 10 characters of the SMA serial number.

If the default SMA name was changed, identify the current SMA name, as shown in the upper right-hand corner of the SMA software GUI.

For example:

- If the SMA name is “MyAppliance” and the domain is “dept.com,” enter `MyAppliance.dept.com` for a fully qualified name.
- If the fully qualified name is `MyAppliance.dept.com`, enter `MyAppliance` as the qualified name.
- If the SMA IP address is “11.22.333.444,” enter `11.22.333.444` for the IP address.

A check is performed to verify communication with the SMA name or IP address:

- If this check fails, [Figure 6](#) displays.

The check also provides the opportunity to continue the BC host agent installation, in the event that the LAN is down or the SMA is offline. This check allows an incorrect SMA name to be corrected.

```
=====
Unable to Ping Host
-----

Unable to ping the Storage Management Appliance on this network. You can
add the Storage Management Appliance name to the sb.ini file at a later
date. Do you want to keep this Storage Management Appliance name and
continue the installation?

->1- Yes
   2- No

ENTER THE NUMBER OF THE DESIRED CHOICE, OR PRESS <ENTER> TO ACCEPT THE
DEFAULT:
```

Figure 6: Unsuccessful ping to SMA option

- Entering a 1 or pressing Enter continues the installation using the SMA name entered in [step 9](#) on page 23.
- Entering a 2 displays [Figure 5](#) on page 23 and continues the installation at [step 9](#).

- If this check succeeds, [Figure 7](#) displays.

```
=====
Pre-Installation Summary
-----

Please review the following before continuing:

Product Name:
    Business Copy EVA/MA/EMA Host Agent v2.2

Install Folder:
    BC_default/CPQevm_or_previous_folder/CPQevm

Storage Management Appliance:
    <previous_SMA_name/IP>

Disk Space Information (for Installation Target):
    Required: <155634226> bytes
    Available: <123456> bytes

PRESS <ENTER> TO CONTINUE:
```

Figure 7: Pre-Installation Summary

10. Press **Enter** to continue; enter `quit` to exit the installation.

The BC host agent software installation takes place (see [Figure 8](#)).

```
=====
Installation Complete
-----

Congratulations. Business Copy EVA/MA/EMA Host Agent v2.2 has been
successfully installed to:

    <BC_default_or_selected_folder>

PRESS <ENTER> TO EXIT THE INSTALLER:
```

Figure 8: Installation completion message

11. Press **Enter** to continue, [Figure 9](#) displays.

The BC host agent is now installed. Refer to the BC Host Agent Release Notes.

Note: The installation script automatically starts the BC daemons. To manually stop and start the BC daemons, refer to the BC Network Administration Guide for details.

```
=====
To reinstall or remove the Business Copy software from this host computer,
refer to the BC Host Agent Installation Guide.
```

```
Please consult the BC Host Agent Release Notes before using Business Copy.
```

```
To submit comments regarding BC, send an email to BCFeedback@hp.com.
```

```
PRESS <ENTER> TO CONTINUE:
```

Figure 9: BC feedback email address

12. Press **Enter** to complete the installation.

Completing the Installation

If the BC host agent was started during installation, HP recommends browsing to the BC network and verifying that the BC host agent has been recognized. Otherwise, perform the verification after manually starting the host agent.

Completing the installation topics include:

- [Reusing Customized OSVM.ini Settings Following a BC Host Agent v2.2 Update or Reinstallation](#), page 28
- [Manually Starting and Stopping the Business Copy Host Agent](#), page 28
- [Browsing to the Business Copy Network](#), page 29
- [Verifying that the Business Copy Host Agent Is Recognized](#), page 29
- [System Files Modified During Installation and Removal](#), page 30

Reusing Customized *OSVM.ini* Settings Following a BC Host Agent v2.2 Update or Reinstallation

If an existing BC network used customized settings in the *OSVM.ini* file, these customized attributes can be reapplied following a BC host agent update or reinstallation.

Note: During the BC host agent installation, the previous *sb.ini* file is automatically updated with changes required for BC v2.2 operations.

During the BC host agent installation, the previous *OSVM.ini* file is saved as *OSVM.ini.bak* to allow access to the previous customized settings. If desired, reapply the customized settings by migrating them from the *OSVM.ini.bak* file to the new *OSVM.ini* file.

Manually Starting and Stopping the Business Copy Host Agent

Refer to the BC Network Administration Guide for the procedures to manually start or stop the daemons on a BC host agent.

Browsing to the Business Copy Network

To browse to the BC network, the browsing computer must have a BC-supported browser with a Java™ Runtime Environment (JRE) installed.

From a host computer, browse to BC and let the BC server detect the JRE environment. Where possible, the BC server provides help for downloading the correct JRE.

Refer to the BC Network Administration Guide and BC Server v2.2 Release Notes for details.

Verifying that the Business Copy Host Agent Is Recognized

To verify that a BC host agent is being recognized by the SMA, complete the following procedure:

1. Browse to the SMA and log in.
Refer to the BC Network Administration Guide, if necessary.
2. Click **Tools**.
3. Click **Business Copy**.
The BC GUI displays.
4. Click **Help**.
5. Click **About Business Copy**.
Verify that the BC version number is 2.2.
6. Click **Resources**.
7. Review the Resources page to verify that the host is included in the host resources display.
A successful installation displays the BC host agent on this page.
8. Update the mapfile for any volume group intended for use with BC.
Refer to the BC Network Administration Guide for the procedure that enables selected HP-UX volume groups to display on the Resources page.
9. Continue to the next host-specific BC host agent installation guide to add other BC host agents to this BC network or to update existing agents.

System Files Modified During Installation and Removal

During BC host agent installation, the following host system file is modified:
/etc/services.

Sample entries added to the */etc/services* file include:

```
switchboard 4991/tcp  #CPQevm switchboard application
bdctrvcv    4995/udp  #CPQevm broadcast receiver application
```

During the BC host agent removal process, this file is modified again to remove the BC entries added during the installation process.

Removing the Business Copy Host Agent

3

Removing BC host agent software involves the following major steps:

1. [Coordinating Removal Activities](#), page 32
2. [Starting the Removal](#), page 33
3. [Completing the Removal](#), page 34

Coordinating Removal Activities

Removing a BC host agent requires coordination to make sure that the software is removed cleanly from the host.



Caution: Make sure that all personnel using applicable storage systems that contain BC are informed of the impending BC removal. Removing a BC host agent while the host agent is running a BC job can result in reduced operational capabilities and loss of data.

Ensure that:

- No BC jobs that involve the host are running or “undoing” during the removal
- No BC jobs that involve the host are scheduled to run or “undo” during the removal
- Removal activities have been coordinated with BC users and other operations

Be aware that:

- Stopping a BC host agent prevents the host computer from being recognized by the BC network
- Stopping a BC host agent prevents any jobs involving that host from running successfully

When ready, go to the next section.

Starting the Removal

To remove the BC host agent from a host computer, complete the following procedure.

Note: During the removal procedure, press **Enter** to choose the default response.

1. Open a terminal window and log on as a super-user.
2. Change the working folder to the one containing the BC host agent.
For example, the default installation folder is `.../opt/CPQevm/bin`.
3. Enter `./delete.sh` to initiate the removal script.

```
Business Copy daemons stopped.
===== <date_and_time> BEGIN swremove SESSION
(non-interactive) (jobid=...)
* Session started for user...
.
.
.
===== <date_and_time> END swremove SESSION
(non-interactive) (jobid=...)
Uninstall Complete.
All items were successfully uninstalled.
```

Figure 10: BC Removal status

The command prompt returns when the BC host agent removal is complete.
The BC host agent is now removed from this host computer.

Completing the Removal

After the BC host agent is removed, the computer can no longer participate in BC jobs. Running any BC job that involves this computer causes the job to fail.

HP recommends planning for the disposition of each BC job that involves this computer. For example:

- Delete the job (if the job will not be valid again).
- Change the job (to eliminate all references to this host computer).
- Leave the job as is (if the job might be used again).

From a BC network perspective, a BC host agent removal is not complete until all impacted BC jobs are resolved.

Reinstalling the Business Copy Host Agent

4

Situations may arise where a change in the BC network requires a change to BC server information stored by the BC host agent. For example:

- The SMA is renamed or replaced.
- The SMA IP address changes.
- The BC server software is moved to a different SMA.
- A network name changes.
- A host computer is reassigned for use with a different SMA.

For these situations, reinstalling the BC host agent may be appropriate.



Caution: Make sure that all personnel involved with using applicable storage systems that contain BC are informed of the impending BC reinstallation. If not properly planned and coordinated, reinstalling a BC host agent while the host agent is involved in a running a BC job can result in reduced operational capabilities and loss of data.

Two reinstallation methods exist:

- One-step Reinstallation—With this method, reinstall the BC host agent using “[Installing the Business Copy Host Agent](#)” on page 17. When prompted, allow the installation script to remove the existing host agent, and then install the BC host agent.
- Two-step Reinstallation—With this method, remove the BC host agent, using “[Removing the Business Copy Host Agent](#)” on page 31. Then reinstall the BC host agent, using the procedure in “[Installing the Business Copy Host Agent](#)” on page 17.

glossary

This glossary defines terms used in this guide or related to this product and is not a comprehensive glossary of computer terms.

Agent

In a client/server system, a program that performs information gathering or processing tasks on behalf of a client or server. Agents often communicate with other agents to perform a collective task on behalf of the user.

StorageWorks agents run on storage system host computers and can be accessed by StorageWorks clients to control and manage the storage system.

BC Network

A network that consists of BC-enabled computers that are connected to a common LAN and to a BC-compatible StorageWorks storage system.

BCV

Business Continuance Volume. A generic term for a storage unit that is created from a standard production unit. A BCV unit can subsequently be used in production tasks, such as backups, application migration, data mining, and testing. A key feature of a BCV unit is that the unit can be accessed while the production volume remains online for normal I/O. The term *BCV unit* does not imply the use of any specific technology.

Client

A computer or program that requests a service of another computer in a client/server system.

Daemon

Diagnostic and execution monitor. Pronounced “demon.” A program usually associated with a UNIX® system that performs a utility (housekeeping or maintenance) function without being requested or even known by the user.

Device Manager

A Web-based storage environment manager that enables users to configure and monitor StorageWorks controllers. A device manager or element manager resides on the SMA.

See also [Element Manager](#).

Element Manager

A Web-based storage environment manager that enables users to configure and monitor StorageWorks controllers. A device manager or element manager resides on the SMA.

See also [Device Manager](#).

Host

In StorageWorks storage system environments, the controlling computer to which a storage system is attached.

Instance

The presence of a program or set of related programs in a computer or storage system. In a BC network, only one BC server instance is allowed (loaded on the SMA), but many BC host agent instances are allowed (one instance per host operating system computer).

Job (BC job)

A file created by BC that represents a user request to perform a task or series of tasks. For example, the BC job named *stor1_backup_daily_sales* might:

1. Replicate a storage unit by the clone method to create BCV units.
2. Mount the BCV units on a server.
3. Start the tape backup of the BCV units.

BC jobs are created by using the Job Create page of the GUI. Jobs can be run from the GUI, the EVM Command Line, script files, or a scheduler.

Node

A generic term for an addressable unit, such as a computer or peripheral device attached to a network. In BC, a BC-enabled computer that is connected to the BC network.

OpenView

An HP line of software products that provides storage management solutions, data protection and recovery, automatic performance tuning, storage virtualization, and other features for multivendor storage environments.

SAN

Storage Area Network. A dedicated, high-speed subnetwork of storage devices that are available to servers on a LAN or WAN. As storage devices are added to the SAN, they become accessible to the servers in the larger network.

SANworks

A Compaq line of software products that provide storage management solutions, data protection and recovery, automatic performance tuning, storage virtualization, and other features for multivendor storage environments.

See also [OpenView](#).

Server

A computer or program that provides a service to other computers in a client (host agent)/server system. Servers often run continuously, waiting for requests from clients.

SMA

See [Storage Management Appliance](#) and [Storage Management Appliance Software](#).

Storage Management Appliance

A host-independent server product designed to connect directly to the SAN fabric. The SMA and SMA software provide a centralized point for managing and monitoring SAN elements, including HP switches and storage arrays.

See also [Storage Management Appliance Software](#).

Storage Management Appliance Software

SMA software installed on SMA hardware that provides a GUI for accessing the monitored SAN environment. This software also provides a launch site for a variety of value-added applications and provides navigation links to directly manage storage components on the SAN.

Storage System

From the perspective of a host, each addressable StorageWorks controller (or controller pair) and their attached physical disks.

StorageWorks

An HP line of hardware storage solutions for multivendor server environments.

TCP/IP

Transmission Control Protocol/Internet Protocol. A suite of communications protocols used to connect host computers to the Internet.

Undo (BC Job)

A special job file that is automatically created by BC for “undoing” steps that have been completed in a user-created job. For example, the job named *undo_stor1_backup_daily_sales* could be run after a tape backup was completed. The undo could unmount the BCV units and return their disks to the pool of free storage resources.

Unit

In StorageWorks storage systems, a logical volume identifier that the controller uses when a container is mounted on a host computer. For example, the unit identifier *D1* could represent a RAID 0+1 striped mirror set that is mounted on a host computer. StorageWorks disk units begin with the letter “D” and tape units begin with the letter “T.”

Volume

A generic term for a storage unit, such as a hard disk, floppy disk, disk cartridge, CD-ROM, or tape cartridge.

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